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28. (Amended) The composite grating of claim 27, wherein the first input pulse and the output optical pulse at least partially spatially overlap [the input path and the output path are at least partially coextensive].

31. (Amended) The composite grating of claim 27 wherein the prescribed output temporal waveform [is substantially] corresponds to a substantially minimum temporal duration optical waveform [an auto-correlation spike].

b2
32. (Amended) The composite grating of claim 31 wherein the second prescribed temporal waveform is sufficiently orthogonal under cross correlation with the first prescribed temporal waveform as to produce substantially no substantially minimum temporal duration optical waveform [spike] from the composite grating when received thereby.

b3
34. The composite grating of claim 27 wherein the subgratings are supported on a surface of the active material, each respective subgrating satisfying the [superficial] grating condition for the respective subbandwidth of light and the input path and the output path.

Please cancel claims ~~45-51~~ without prejudice. Please add the following new claims:]

b4
--52. The composite grating of claim 27, wherein the grating condition is a Bragg condition.

53. The composite grating of claim 27, wherein the grating condition is a surficial grating condition.

54. The composite grating of claim 34, wherein the grating condition is a surficial grating condition.--

REMARKS

Entry of the above amendments is requested prior to examination of the subject application.

Upon entry of this Preliminary Amendment B, claims 27-44 and 52-54 are in the application.